

Claims

We claim:

1. A method for making a conductive path in a laminate structure hole comprising the steps of:
 - providing a laminate with a top surface and a bottom surface and having at least one hole;
 - providing a conductive element;
 - inserting the conductive element into the at least one hole in the laminate; and
 - deforming the conductive element within the at least one hole in the laminate to retain the conductive element within the at least one hole.
2. The method of claim 1, wherein the deforming of the conductive element further includes forming an electrode at the top surface of the laminate.
3. The method of claim 1, wherein the at least one hole is a through hole extending from the top surface to the lower surface of the laminate.
4. The method of claim 1, wherein the conductive element is a sphere.

3 5. The method of claim 4, wherein the sphere is solid or
4 hollow.

1 6. The method of claim 1, wherein the at least one hole is
2 a blind via.

1 7. The method of claim 1, wherein the conductive element
2 includes a conductive surface covering a base element.

1 8. The method of claim 7, wherein the conductive surface is
2 selected from the group consisting of copper, brass, gold,
3 and bronze.

1 9. The method of claim 7, wherein the base element is
2 selected from the group consisting of glass, rubber, and
3 plastic.

1 10. The method of claim 1, wherein the conductive element is
2 a cylinder.

1 11. The method of claim 10, wherein the cylinder is solid or
2 hollow.

1 12. The method of claim 1, wherein the conductive element is
2 selected from the group consisting of copper, brass, gold,
3 and bronze.

1 13. The method of claim 1, wherein the at least one hole is
2 a buried via.

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1 14. A method comprising:

2 embedding a conductive element into a laminate, wherein
3 the conductive element substantially maintains a shape while
4 the laminate deforms to accommodate the conductive element.

1 15. The method of claim 14, wherein the conductive element
2 includes a conductive surface covering a base element.

1 16. The method of claim 15, wherein the conductive surface
2 is selected from the group consisting of copper, brass, gold,
3 and bronze.

1 17. The method of claim 15, wherein the base element is
2 selected from the group consisting of glass, rubber, and
3 plastic.

1 18. The method of claim 15, wherein the conductive element
2 is selected from the group consisting of copper, brass, gold,
3 and bronze.

1 19. The method of claim 15, wherein the conductive element
2 is a sphere or a cylinder.

1 20. The method of claim 15, wherein the conductive element
2 is hollow.

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1 21. A method comprising:
2 providing an opening in a laminate; and
3 pressing a conductive element into the opening.

1 22. The method of claim 21, wherein the opening is a hole.

1 23. The method of claim 21, wherein the conductive element
2 is a sphere.

1 24. The method of claim 21, wherein the conductive element
is a cylinder.

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1 25. A method comprising:
2 providing a plurality of laminates;
3 embedding at least one conductive element into each
4 laminate;
5 forming a contact pad on each end of each conductive
6 element;
7 bonding each laminate together to form a stack; and
8 wherein adjoining contact pads press together and form
9 an electrical connection.

26. The method of claim 25, further including a conductive
adhesive applied between adjoining contact pads.

1 27. A structure comprising:

2 a conductive element embedded into a laminate.

1 28. The structure of claim 27, further including an opening
2 in the laminate that the conductive object is pressed into.

1 29. The structure of claim 28, wherein the opening is a hole
2 in the laminate.

1 30. The structure of claim 27, wherein the conductive
element is a sphere or a cylinder.

1 31. The structure of claim 27, wherein the conductive
element is selected from the group consisting of copper,
brass, and bronze.

1 32. The structure of claim 27, wherein the laminate is
2 selected from the group consisting of epoxy, cyanate-epoxy
3 blend, and glass reinforced carrier.